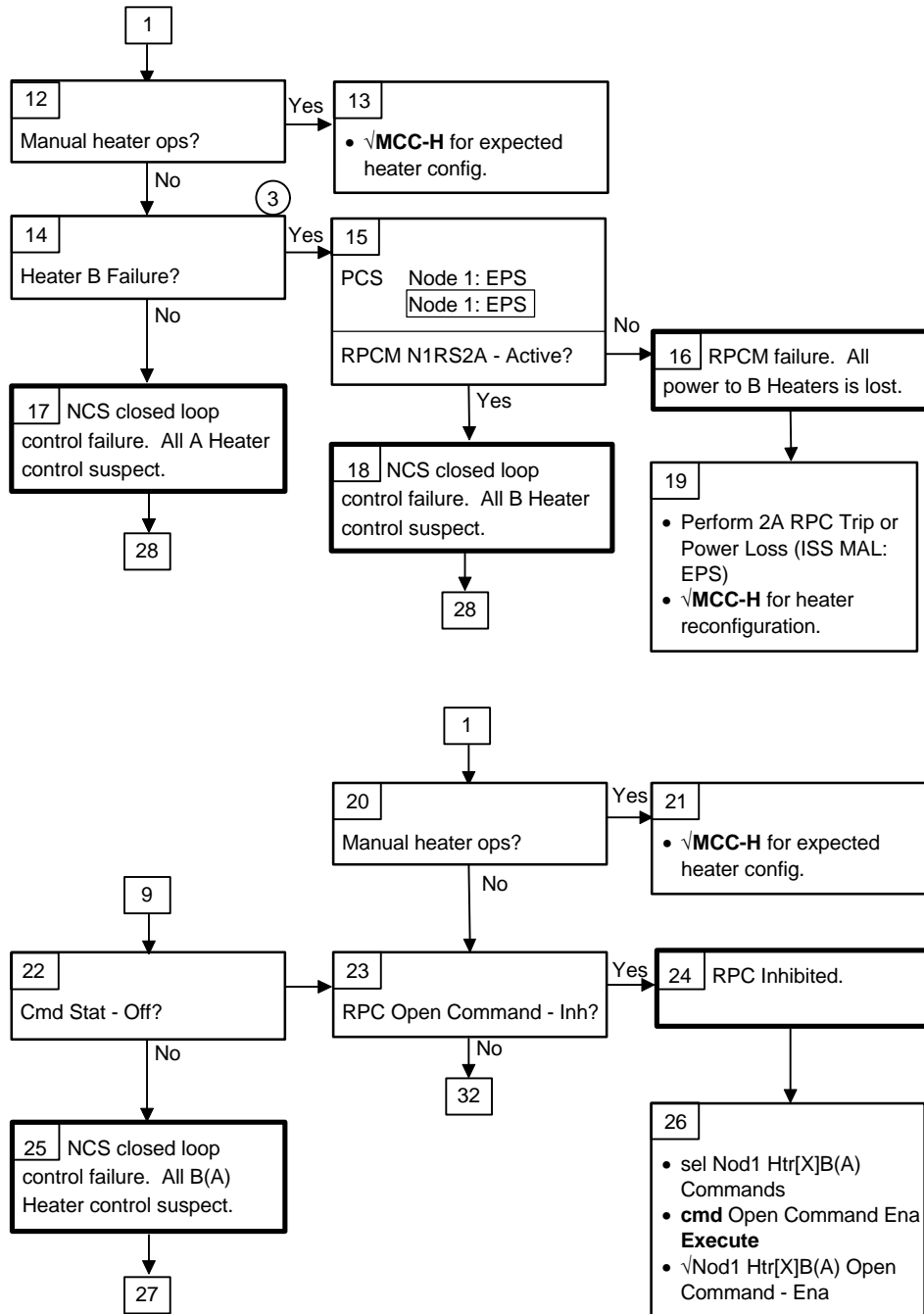
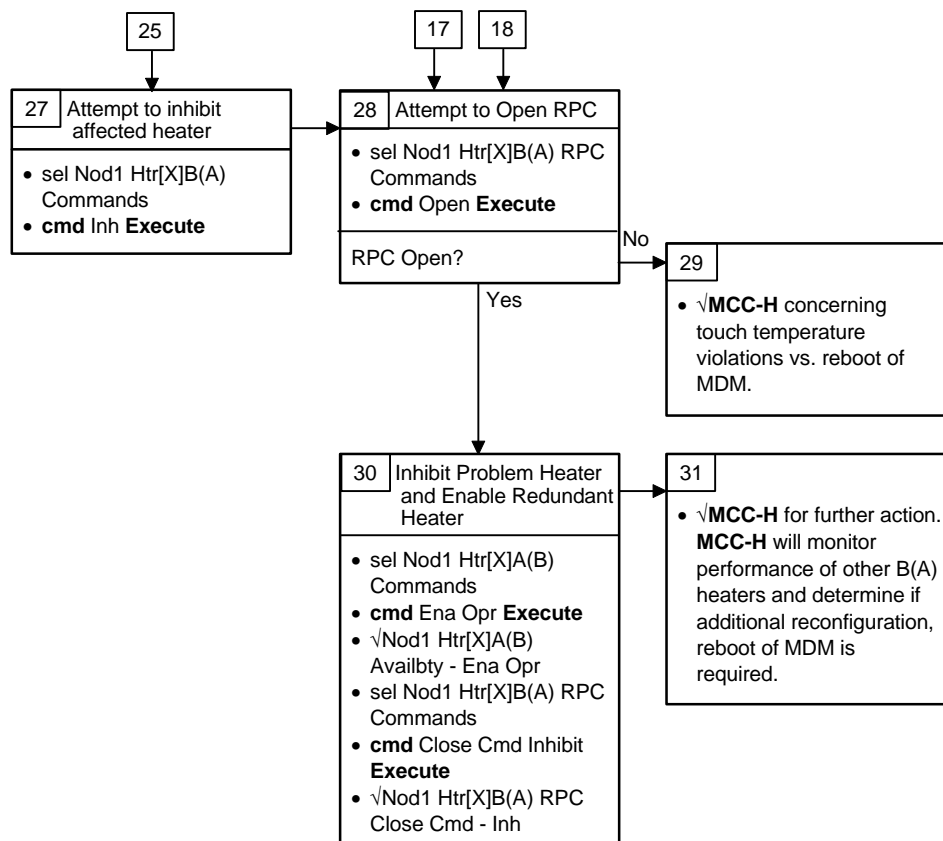


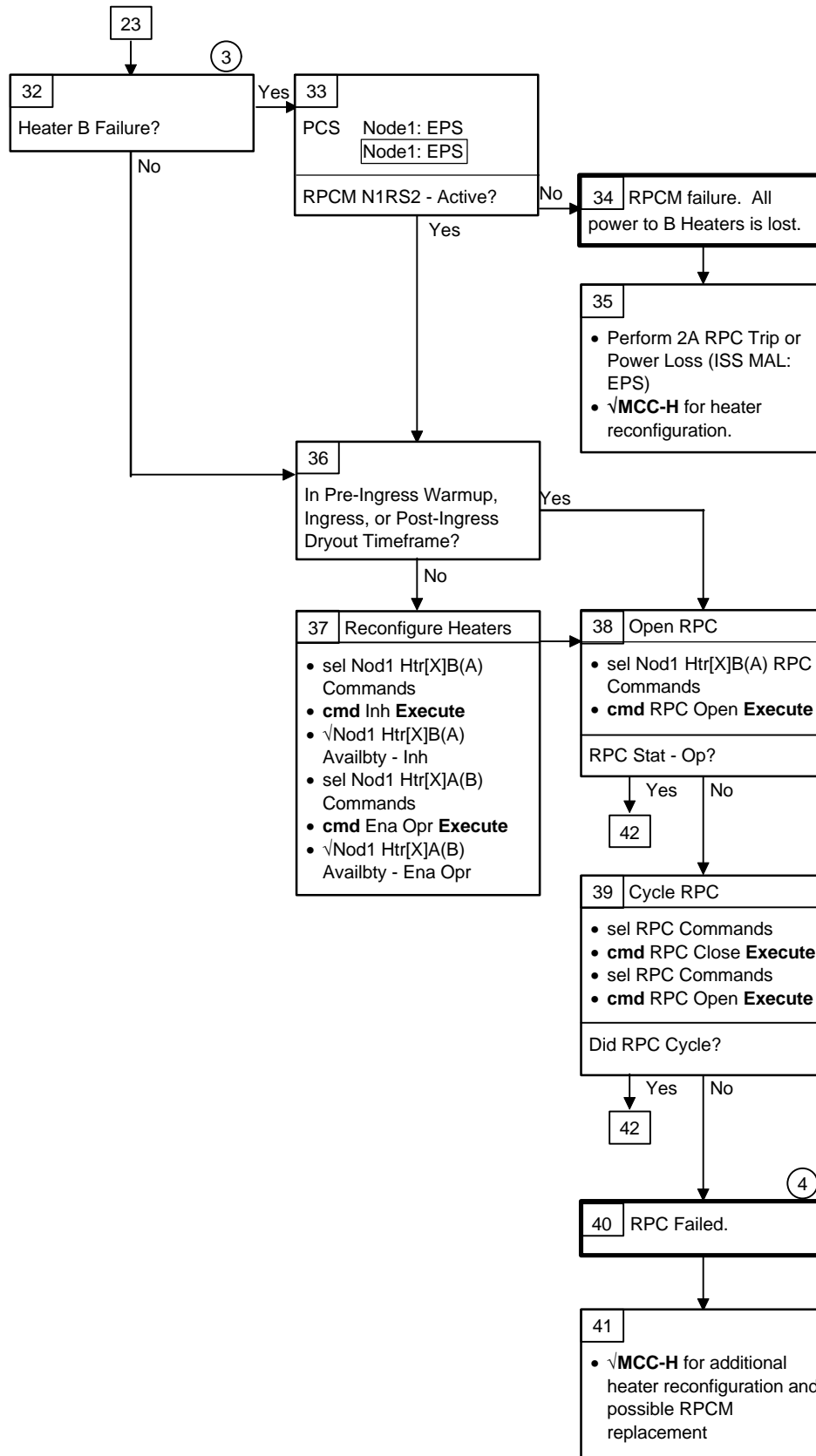
## NODE 1 SHELL HEATER FAILURE (Cont)



3 The A Heaters are connected to the same RPCM as MDM N1-1. The MDM Failure malfunction will be worked in that case. The B Heaters are not connected to the same RPCM as MDM N1-2, therefore it is possible that the heater configuration problem could be detected before the RPCM failure.



## NODE 1 SHELL HEATER FAILURE (Cont)



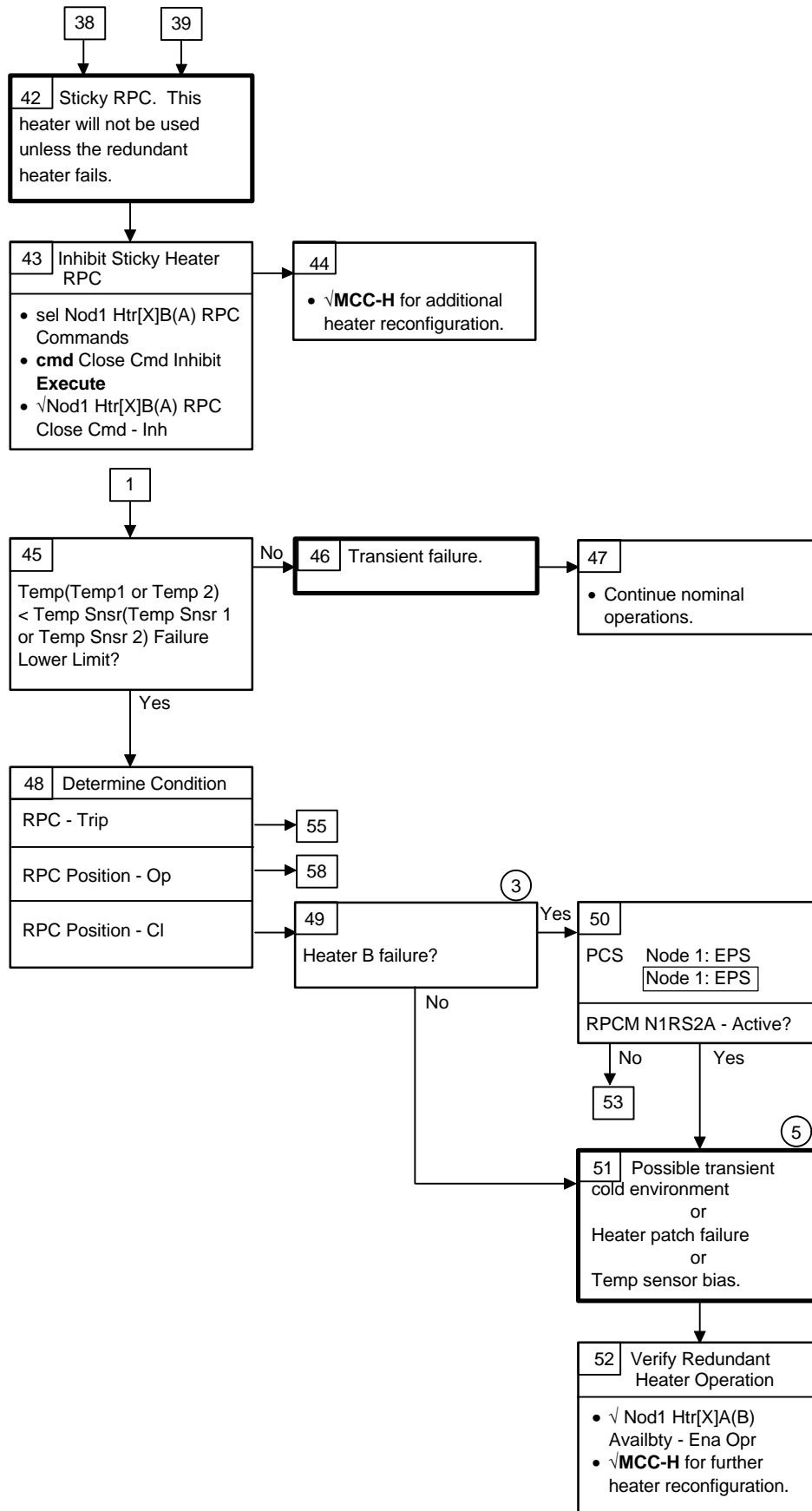
③

The A Heaters are connected to the same RPCM as MDM N1-1. The MDM Failure malfunction will be worked in that case. The B Heaters are not connected to the same RPCM as MDM N1-2, therefore it is possible that the heater configuration problem could be detected before the RPCM failure.

④

**MCC-H** will evaluate the possibility of touch temperature violations and the consequences of leaving the heater on

## NODE 1 SHELL HEATER FAILURE (Cont)



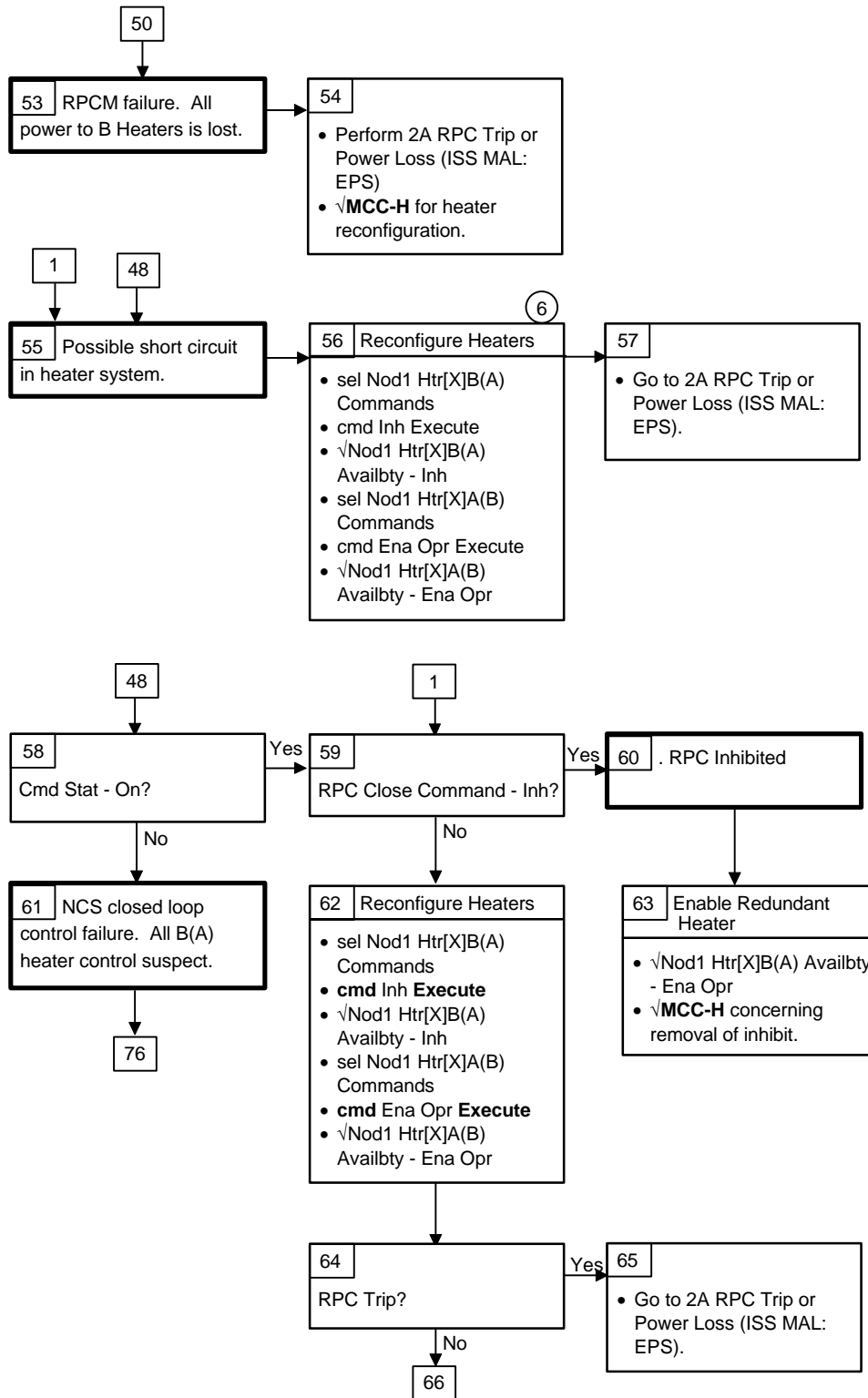
(3)

The A Heaters are connected to the same RPCM as MDM N1-1. The MDM failure malfunction will be worked in that case. The B Heaters are not connected to the same RPCM as MDM N1-2, therefore it is possible that the heater configuration problem could be detected before the RPCM failure.

(5)

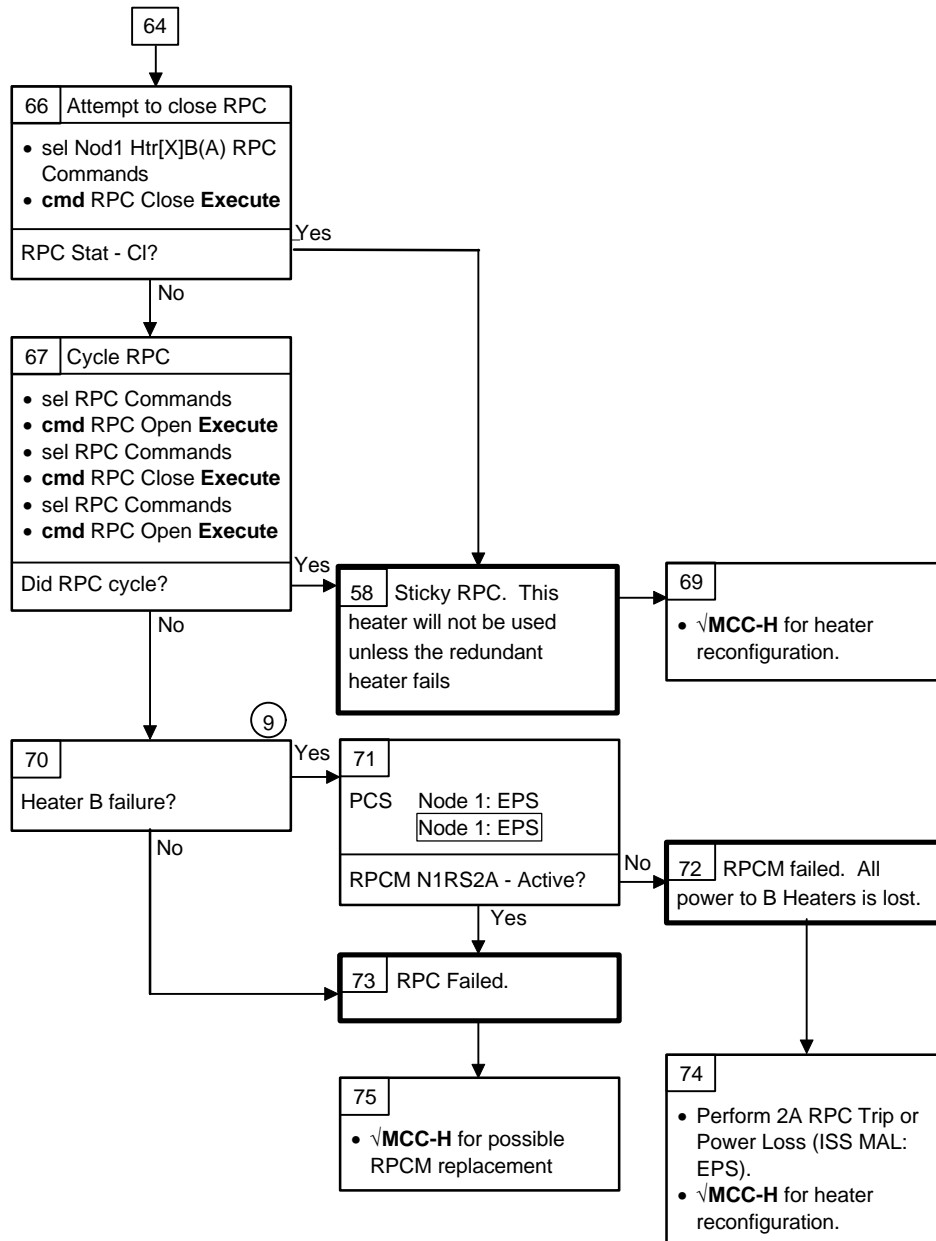
A transient cold environment could require both B and A Heaters to keep temperatures within limits. A heater pad degonding failure or open circuit failure could also be the culprit in this case.

## NODE 1 SHELL HEATER FAILURE (Cont)

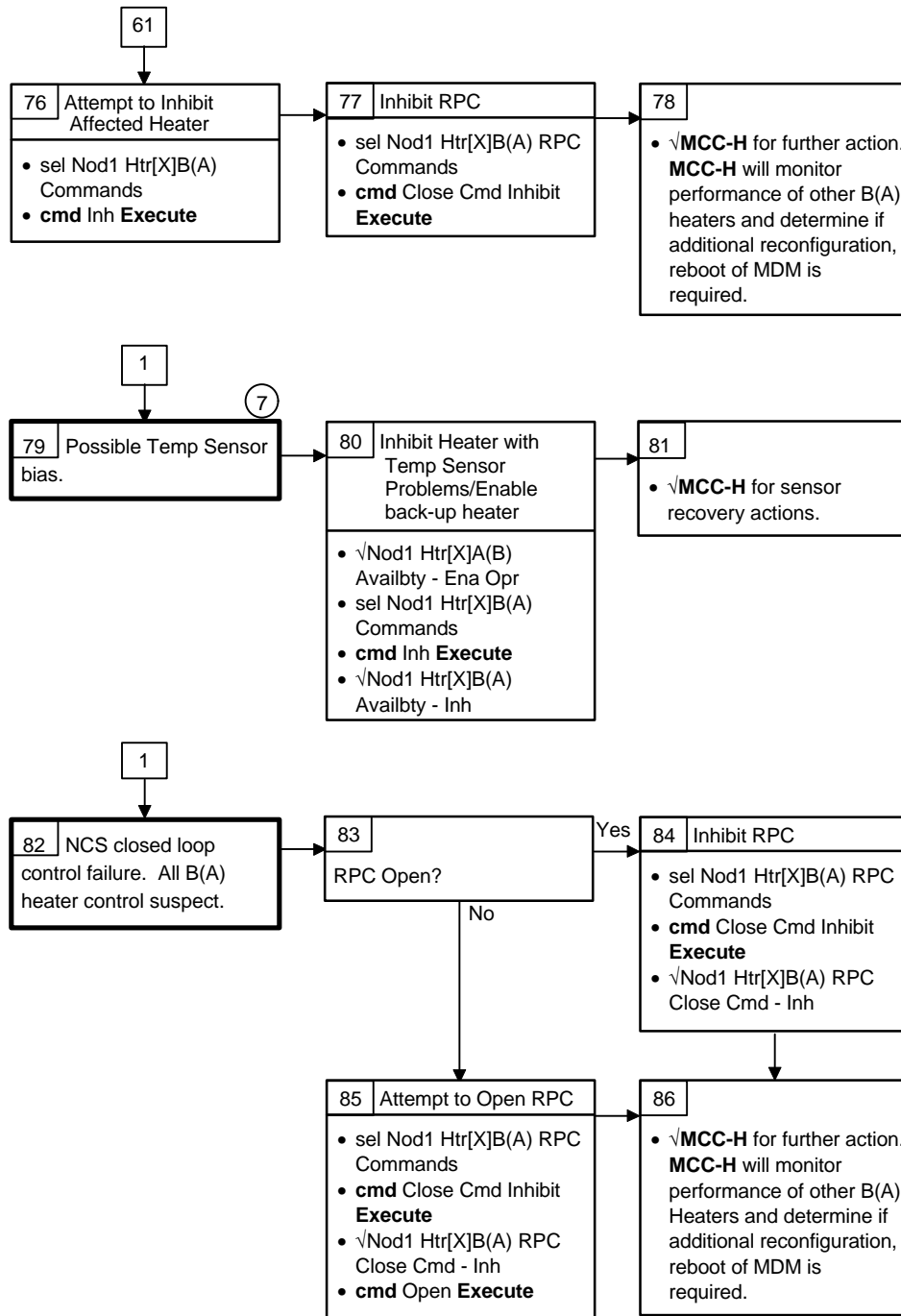


⑥

Since the RPC has tripped once, it will not be used again unless necessary.



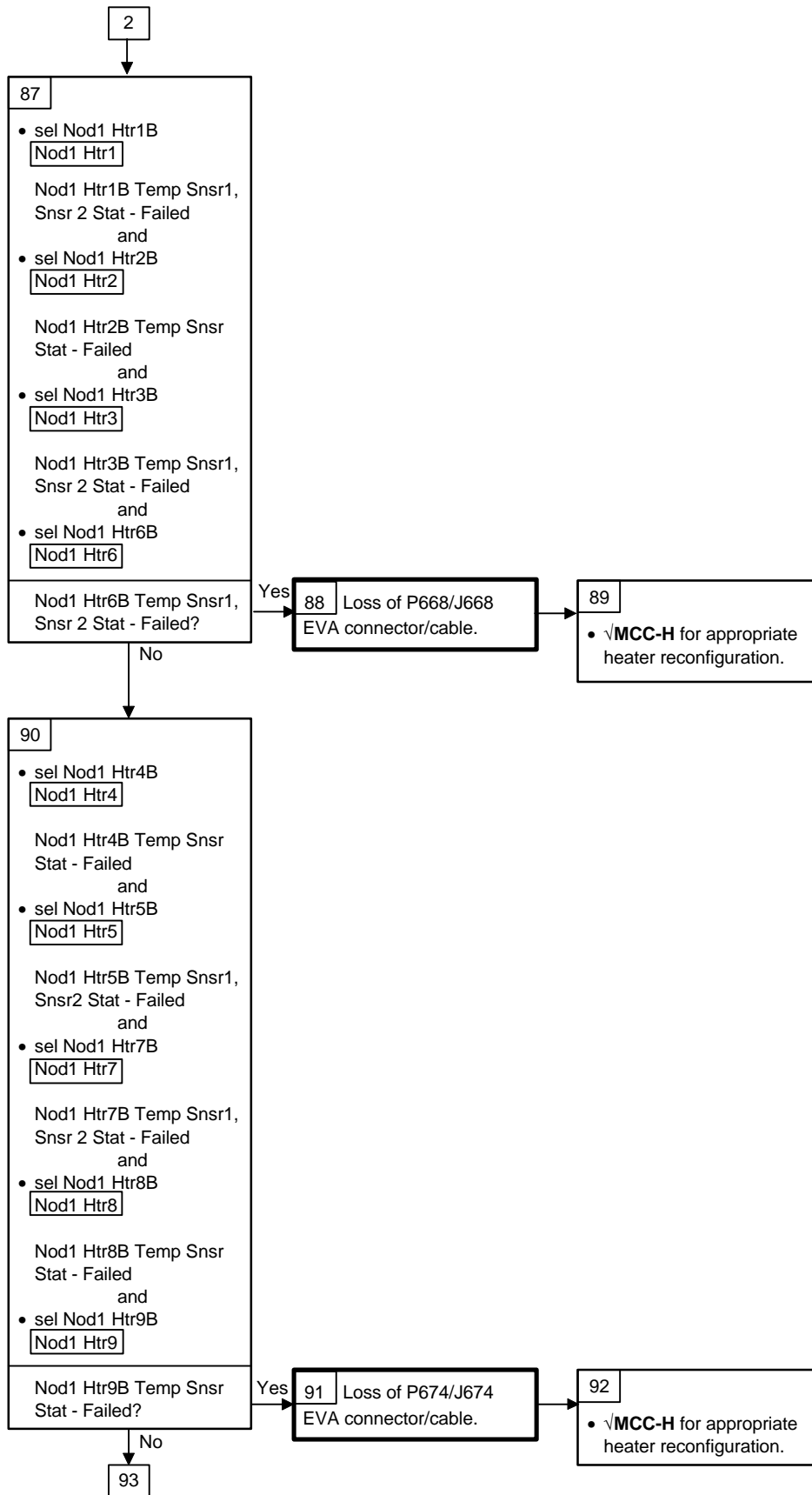
## NODE 1 SHELL HEATER FAILURE (Cont)



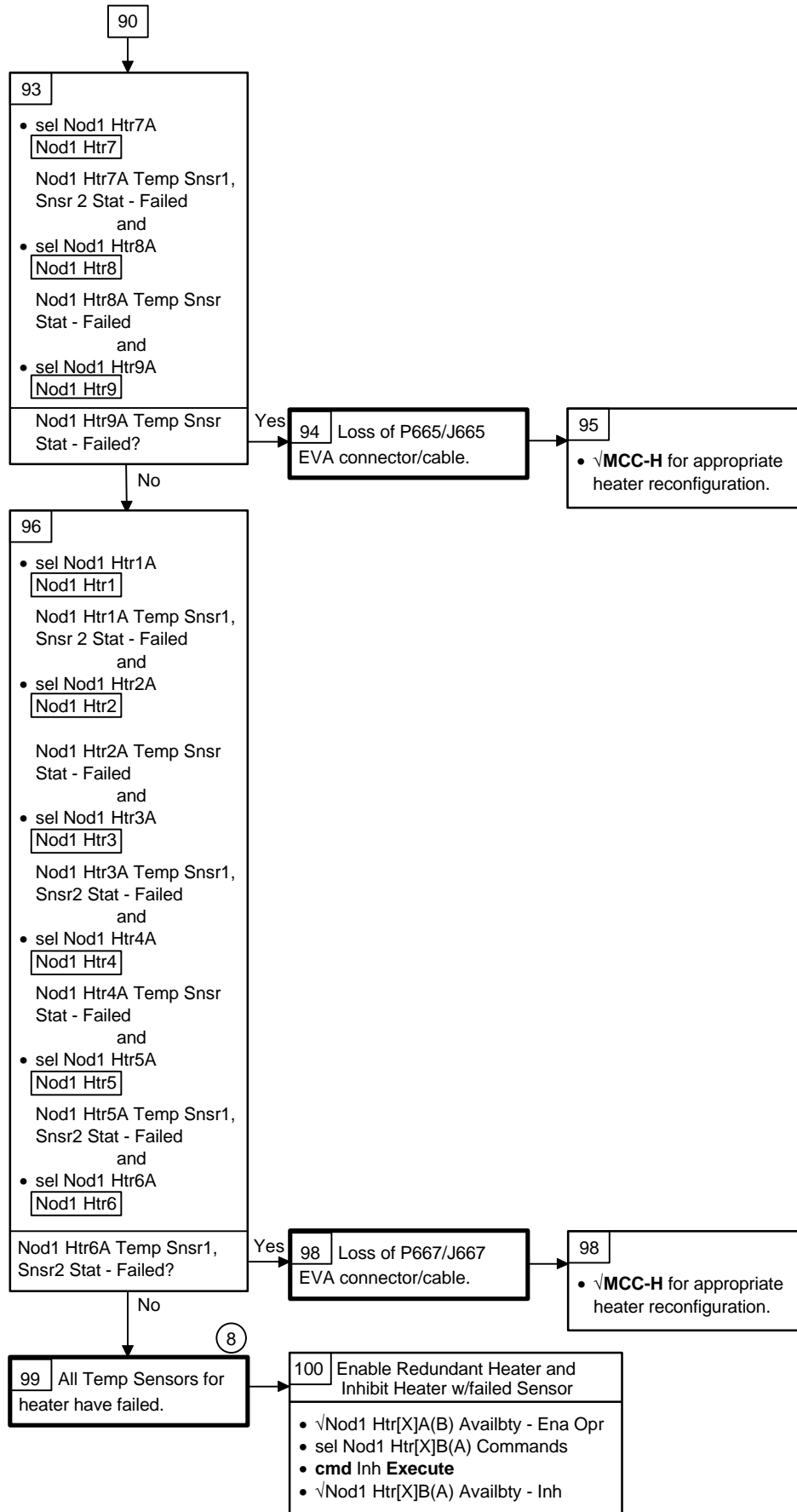
⑦

Temperature of one sensor is less than its lower setpoint, temperature of the redundant sensor is greater than its upper setpoint. Software will command the heater off (default state).

## NODE 1 SHELL HEATER FAILURE (Cont)



## NODE 1 SHELL HEATER FAILURE (Cont)



(8)

Temp sensor(s) have failed range check. Temp reading is either higher than +400°C or lower than -350°C. Software will command heater off (default state).